Chapter 11 questions

1. Are the NEPA effects determinations defined by thresholds or a process, method, or set of decision rules for using summarized information to determine the NEPA effects (beneficial, not adverse, adverse, not determined)?
2. Does the 5% or 10% change from EC &/or NAA apply generally as a threshold for an adverse effect determination? Would that apply for each effect category (entrainment, spawning, rearing, migration)? And/or each of the multiple indicators (e.g., migration analysis includes temperature & flow in adult and juvenile migration periods, through Delta monthly mean flows, predation and habitat loss at intakes, through Delta survival)?
    - Page 11-255, NEPA Effects suggest that entrainment increases but not expected to reach the level of 'adverse.' The level of adverse isn't really defined, more than 5%, that is indicated. Also, existing conditions are poor for the species and considered a significant stressor on population abundance. So how would increasing the impact not be adverse? Same issue on page 230 wrt LFS and loss of spawning flows/habitat; same issue page 11-231 NEPA conclusion on effects of water ops on rearing habitat.
3. Sometimes the narrative summary of effects doesn't explicitly state the NEPA effects determination stated in the summary tables, eg AQUA-22. Why doesn't the text state the NEPA effects determination explicitly and then describe how the summarized information was used to make a determination of beneficial, not adverse, adverse, or not determined?
4. WR Chinook, compare tables 11-1A-17 and Table 11-4-22 showing estimated predation losses at intakes. Tables different, seasonal split for Alt 1, not Alt 4. Alt 2 refers to Alt1; seasonal split for Alt 3; Alt 8 refers to Table for Alt 4; Predation loss for Alt 5 split out among seasons; Alt 6 not split out among seasons; Alt 7, not split out among seasons; Alt 9 not split out among seasons. What is the reason for the differences in reporting the information?
5. Impact AQUA-21: Effects of Water Operations on Entrainment of Longfin Smelt: Entrainment impacts are estimated to increase for juvenile longfin smelt in dry (14%), below normal (46%), and above normal (33%)water year types (Table 11-1A-6) and the ***Summary*** text on page 11-295 states, "It is concluded that these changes in longfin smelt entrainment would be adverse under Alternative 1A." The subsequent ***NEPA Effects*** statement doesn't match the previous quote or the juvenile entrainment increases, "The overall effect of the Alternative 1A operations scenario would not be adverse to longfin smelt." Table 11-1A-SUM2 also lists the NEPA conclusion for entrainment of longfin smelt as "not adverse." Is there a typographical error somewhere? What is the reason for the two different NEPA effects determinations?
6. Entrainment impacts on Spring Run Chinook Salmon (AQUA-57) show an increase in juvenile entrainment at south Delta pumps in below normal (51%), dry (49%) and critically dry (11%) years but an overall decrease in juvenile entrainment, compared to NAA. Here, the NEPA conclusion is adverse instead of not adverse even though juvenile entrainment is increasing for both juvenile Longfin smelt and juvenile Spring Run Chinook salmon. Can we walk through why these would have different NEPA effects determinations for the entrainment category?
7. Existing Conditions and NAA are slightly different in Tables 11-1A-5 (p. 293) and 11-4-4 (page 1302). It is the same entrainment analysis at S. Delta pumps but one is for Alt 1A and the other is for Alt 4. Why the difference (v. small) in EC and NAA? Shouldn't they be the same?

8. LFS entrainment analysis results for Alt 4 is not v. different in impact from Alt 1A but have different NEPA effects determinations. Same thing notice for N. Bay Aqueduct analysis (p. 11-295 Table 11-1A-7 v. page 11-4-6 page 11-1304).
9. Is there information about changing residence times (eg monthly averages?) in the south Delta and where would it be? It is relevant to selenium analysis and green sturgeon selenium exposure. The concern is that green sturgeon selenium exposure will increase if residence time and selenium load increase in the south Delta. The NEPA effects determination for CM1 in the DEIS is 'not adverse' – see AQUA-134
10. Why does LFS relative abundance estimate go down so much in wet years (relative to EC)? And why does it increase in dry years? This seems counter intuitive to me. Example is Table 11-1A-8 but pattern holds for most alternatives.
11. The most recent FMWT wet-year (2012 – year after the yet wear) relative abundance estimate for LFS is ~ 61,000 and some of the relative abundance losses in wet years are ~ 6000. Can we compare these numbers?
12. What are some reasons DS entrainment goes down so much in Alts 7 and 8 compared to the others? Why aren't these reasons discussed in the DEIS?
13. How important is juvenile DS entrainment v. adult entrainment wrt relative abundance?
14. What are the reasons for the "not determined" in the DS analysis, especially wrt to the abiotic habitat analysis? Can we walk through that and compare it to the net effects determined in the HCP (figure 5.5.1-5).
15. Do the results of AQUA-22 suggest that LFS may not be present in the estuary as a result of the combined effects of proposed operations, sea level rise, and climate change? I pulled the numbers in the table below from the EIS analysis of Impact AQUA-22: Effects of Water Operations on Spawning, Egg Incubation, and Rearing Habitat for Longfin Smelt. I highlighted a few numbers.
    - I was surprised to see large decreases in the estimated relative abundance index, especially for the wet years. The thing that I see looking at the highlighted numbers for the H4 operations is that relative abundance of LFS may drop by a few thousand when compared to Existing Conditions (~ 2009). The FMWT relative abundance estimate from 2009 is 65 (see page 14, Figure 8 of IEP Newsletter Vol 26). So are these numbers suggesting that LFS abundance index may decline by 100 times where it is today? That would be a negative abundance index (65- 2308 = -2243) so does that suggest LFS may be eliminated from SF Bay Delta Estuary if the CVP/SWP exports are defined by Scenario H (most scenarios) combined with the effects of climate change and sea level rise?
    - Do the positive numbers reported for Scenario H compared to NAA mean that, if we manage the estuary per the NAA until Scenario H is in place, then Scenario H will result in a ~2X – 10X increase (157 -- 727) over the current abundance estimate (65). Does it suggest that Scenario H moves the relative abundance index from somewhere in the 10's to somewhere in the 100's? Is there a relative abundance index estimate for NAA? If so, do you know where that estimate is in the DEIS? Is it positive? I'm trying to understand the actual estimate of relative abundance for the alternatives not just the change from NAA so I can tell whether or not relative abundance is estimated to be positive or negative not just the

change (+/-) relative to the NAA.

FMWT relative abundance estimates

Existing Conditions

	1	2	3	4 H1	4 H4	5	6	7	8	9
All	-1501	-1665	-1724	-2879	-2308	-1606	-915	-730	204	-1238
Wet	-6055	-6317	-6441	-6298	-5359	-5679	-5548	-5089	-3779	-4901
Above Normal	-2825	-3557	-3650	-3069	-2060	-3245	-2893	-2584	-1493	-2749
Below Normal	-1378	-1508	-1685	-1558	-946	-1499	-857	-668	434	-1125
Dry	-557	-616	-601	-626	-519	-648	-28	-2	777	-356
Critical	-144	-158	-169	-199	-221	-180	150	244	442	-155
No Action Alternative										
All	-304	-188	-247	157	727	-129	561	747	1680	239
Wet	-128	48	-77	739	1678	667	816	1275	2585	1463
Above Normal	-857	-725	-817	-72	936	-413	-61	249	1339	83
Below Normal	-431	-209	-386	-220	391	-201	442	631	1732	174
Dry	-154	-123	-108	-113	-6	-155	465	490	1270	137
Critical	-47	-24	-34	-29	-51	-45	284	378	576	-20